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lines and determining the moment at which these lines become coincident. But it seems obvious that, so far at least as optical difficulties are concerned, an observation of this sort would be much more easily made than an observation of "the breaking or formation of the dark ligament."

This method is clearly applicable to egress also, and applies as well to Halley's as to Delisle's method. The best stations for applying it are those referred to in my paper in the *Monthly Notices* for last June.

Nov. 22, 1869.

On a Change in the Colour of the Equatorial Belt of Jupiter.
By John Browning.

For several years I have been in the habit of observing *Jupiter* with considerable regularity with reflectors of large aperture. On every occasion previous to this presentation, the equatorial cloud-belt has been without colour, and the brightest portion of the disk of the planet. During the month of October this cloud-belt has, however, constantly been of a strong, greenish yellow, and darker than the bright belts north and south of it. The colour is almost exactly that known to artists as yellow lake. The colours of various parts of the disk I take from my observatory note-book.

Oct. 9th, 9·30.—Equatorial belt strong yellow lake, the other bright belts colourless. Dark belts very warm grey, and faint coppery red. The poles of the planet ashy blue. The drawing I have the honour of exhibiting represents the planet as it appeared at this time.

Two or three persons quite unused to the telescope noticed the colour of the equatorial belt.

Oct. 11th.—Observed *Jupiter* with Mr. Proctor. Colours the same, but the greenish-yellow belt was covered with white spots. Mr. Proctor agreed with me as to the greenish yellow of the equatorial belt and the ashy blue of the poles, but could not see the red in the dark belts.

In all instances I used 12 inches aperture and a power of 148, *achromatic* eye-piece.

I have received a letter from Mr. Brindley, of Lewisham, from which I give an extract:—"With reference to the appearance of *Jupiter*, I last night spent some hours with the 8½-inch telescope turned on him. I was most agreeably surprised; the belts were so different to what I had seen them before. The dark ones of a dark lake colour, the bright one of a lovely tinted green." As this letter was written some days after my drawing was made, and the writer had not seen the drawing, I cannot be much mistaken in the colours I have ascribed to the various portions of the planet.

Two years since I saw a coloured drawing of *Jupiter* at Mr. De La Rue's Observatory at Cranford. In this drawing, if my memory serves me, the equatorial belt was colourless.

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I have watched the planet through the greater part of a revolution; the greenish yellow of the great equatorial belt remained unchanged. I have drawn the attention of several observers to the colours of the belt, some of whom have been in the habit of observing it for many years. One of these gentlemen says that he is certain that the equatorial belt has not presented such an appearance as at present for a quarter of a century.*

Writing to Mr. Proctor some time since, I said that I thought the very small specific gravity of *Jupiter* might be due to the existence of a cloudy envelope of enormous extent. Mr. Proctor replied, that he thought it just possible that the whole light from the planet might not be reflected; but that some portion might be emitted by the body of the planet. The same idea had presented itself to me. Being by far the largest planet in the solar system, it will certainly have retained more heat than the rest.

Such an alteration in the colour of the planet as I have described, must, I think, indicate some considerable change, either on the surface of the planet or in its atmosphere. In the hope of throwing some light on such changes in future, I am making a careful map of the spectrum of the planet. When this is completed I shall have the honour of submitting it to the Society.

Selenographical Notes: Apenninus and adjacent Regions.

By C. H. Weston, Esq.

Few lunar objects are more striking than the range of *Apenninus* lying S.E. of *Mare Imbrium*. It not only presents forms unlike the commonly existing circular structures, but when viewed on the *terminator* of an increasing Moon (and definition good) exhibits broad shadings on its massive flanks and serrated outlines mapped out in light upon the low lands far beneath.†

During the last month the decreasing Moon was examined under favourable circumstances on the morning of the 27th when just east of the meridian. Her age about $20^d\ 13^h\ 30^m$. By her libration a little more of the NNE. quadrant was made visible than in mean position. The *terminator* was particularly interesting, as its extremities passed so very near both the lunar poles. On or near the *terminator* the following striking points were carefully identified:—Region near North Pole, *Anaxagoras* on east of terminator, *Barrow A* on west (shadow fine), *Epigenes* on east, *Aristoteles*, *Eudoxus*, *Calippus*, on east, *Menelaus* on east, *Agrippa* on east, *Godin* on east, *Delambre*, *Taylor* on east, south-west end of valley between *Taylor* and b.c. south-east of *Taylor*, *Kant*, *Descartes*, *Abulfeda*, *Almanon*, *Sacro-bosco*,

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* Since writing the above I have received information which leads me to suspect periodicity in the change of colour on *Jupiter*.

† During a partial eclipse (when illumined objects could be contrasted with dark parts) details were finely seen by the larger Newtonian (14·25 in. 16 ft.)

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